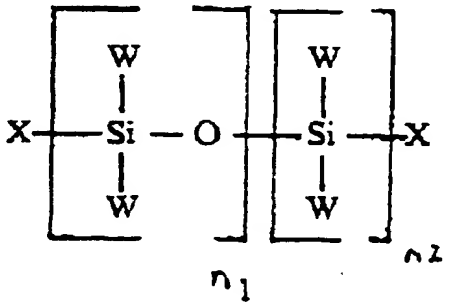
CLAIMS

1. A branched copolymer of polypropylene (PP) and a silicone polymer which is produced by melt phase hydrosilylation.

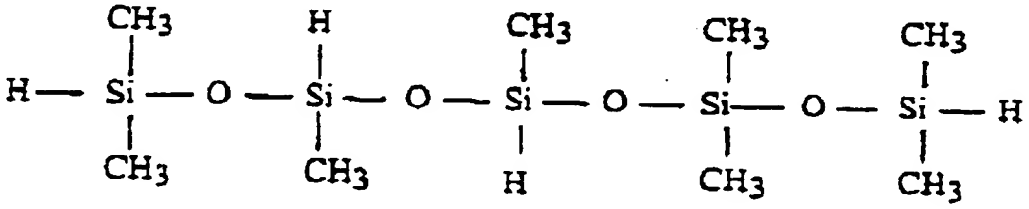
2. The copolymer of claim 1 wherein said silicone polymer is a polysilane of the Formula I:



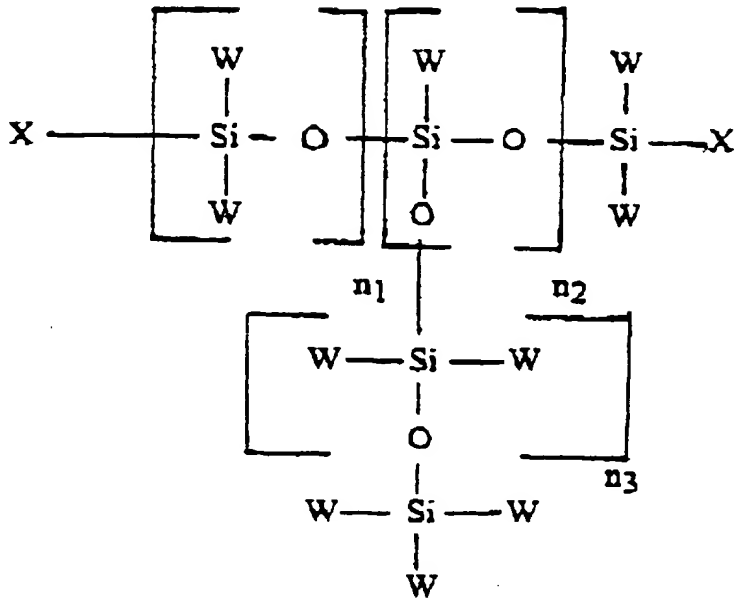
I

wherein X is an organic end group, W is an organic or inorganic group, with X and W being selected such that the polysilane contains at least two Si-H groups and sufficient to provide a branched structure, and n_1 and n_2 are the number of repeating groups in the chain.

3. The copolymer of claim 2 wherein said polysilane of formula I is a polyhydrosiloxane of the formula:



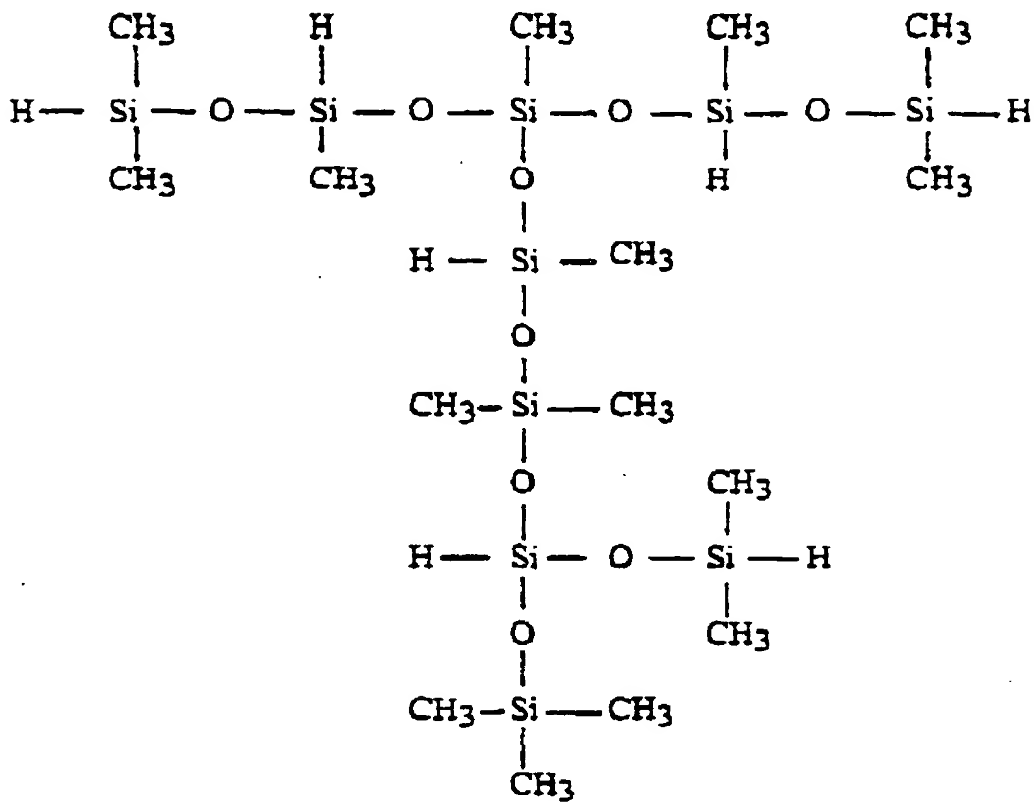
4. The copolymer of claim 1 wherein said silicone polymer is a polysilane of the Formula II:



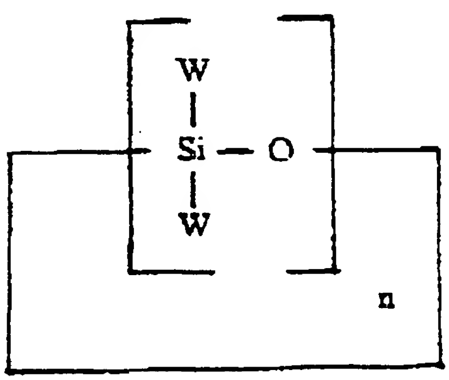
II

wherein X is an organic end group, W is an organic or inorganic group, with X and W being selected such that the polysilane contains at least two Si-H groups and sufficient to provide a branched structure, and n_1, n_2 and n_3 are the number of repeating groups in the chain.

5. The copolymer of claim 4 wherein said polysilane of Formula II is a branched polyhydrosiloxane of the formula:



6. The copolymer of claim 1 wherein said silane polymer is a polysilane of the formula III:

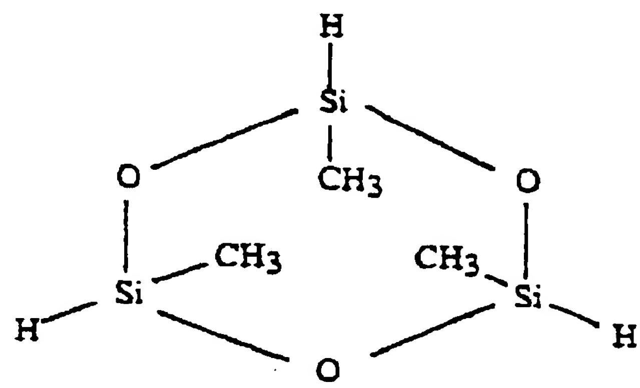


III

wherein W is an organic or inorganic group selected such that the polysilane contains at least two Si-H groups and sufficient to provide a branched structure, and n is the number of repeating groups in the chain.

7. The copolymer of claim 6 wherein said polysilane

is a cyclic polyhydrosiloxane of the formula:



8. The copolymer of claim 1 wherein said silicone polymer is a methylhydrosiloxane-dimethylsiloxane random copolymer (MDMS).

9. The copolymer of claim 8 wherein the ratio of PP to MDMS is such that the copolymer contains free Si-H groups.

10. The copolymer of claim 9 which is coupled, through free Si-H groups, to an inorganic filler, inorganic surface, a hydroxy-containing polymer, vinyl-containing polymer or other polymer containing functional groups reactive with free Si-H.

11. The copolymer of claim 10 wherein said coupling is effected by a hydrosilylation reaction or a dehydrogenerative coupling reaction.

12. The copolymer of claim 9 wherein the free Si-H groups are cross-linked.

13. The copolymer of claim 12 wherein free Si-H groups are connected into a Si-OH group by a metal-catalyzed reaction with water and subsequently dehydrogenatively coupling to a second Si-H group.

14. The copolymer of claim 12 wherein Si-H groups are reacted by dehydrogenative coupling.

15. The copolymer of claim 8 which is coupled to metallic, glass, ceramic or other vitreous surface.

16. A blend of incompatible blend partners which are polypropylene (PP) and a methylhydrosiloxane-dimethylsiloxane random copolymer (MDMS), in which the incompatible blend partners are connected by a hydrosilylation reaction in the form of a branched PP-MDMS block copolymer.

17. The blend of claim 16 containing free Si-H groups.

18. A process of forming a branched polypropylene, which comprises effecting melt phase hydrosilylation of a terminally-unsaturated polypropylene in the presence of a methylhydrosiloxane-dimethylsiloxane random copolymer (MDMS).

19. A process of forming a branched polypropylene, which comprises:

effecting hydrosilylation at a vinyl end of polypropylene with a trialkoxysilane to form a functionalized polymer, and

thereafter effecting post-reaction branching of the functionalized polymer by reacting Si-OR groups to form a Si-O-Si bridge.

Add A4